



# Cisco IE 3010 Switch Getting Started Guide

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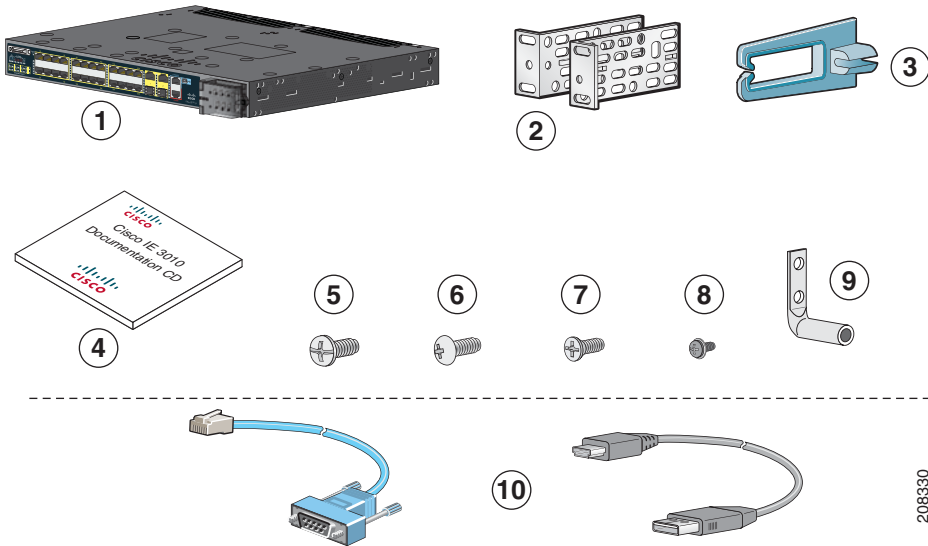
# About this Guide

This guide describes how to use Express Setup to initially configure your Cisco IE 3010 switch. It also covers switch management options, rack-mounting, wiring procedures, port and module connection procedures, and troubleshooting.

For additional installation and configuration information for the switch, see the Cisco IE 3010 switch documentation on Cisco.com. For system requirements, important notes, limitations, open and resolved bugs, and last-minute documentation updates, see the release notes, also on Cisco.com. For translations of the warnings that appear in this publication, see the *Regulatory Compliance and Safety Information for the Cisco IE 3010 Switch* on the documentation CD. The product warranty information is on the documentation CD.

When using the online publications, see the documents that match the Cisco IOS software version running on the switch.

# Box Contents



<b>1</b>	Cisco IE 3010 <sup>1</sup> switch	<b>6</b>	Four number-12 Phillips truss-head screws
<b>2</b>	Two 19-inch mounting brackets	<b>7</b>	Six number-8 Phillips flat-head screws
<b>3</b>	Cable guide	<b>8</b>	One black Phillips machine screw
<b>4</b>	Documentation	<b>9</b>	Dual-hole ground lug
<b>5</b>	Four number-8 Phillips machine screws	<b>10</b>	Console cable or USB cable <sup>2</sup>

1. Cisco IE-3010-24TC shown. Your switch model might look different.

2. Item is orderable.



## Note

Verify that you have received these items. If any item is missing or damaged, contact your Cisco representative or reseller for instructions.

# Running Express Setup

You should use Express Setup to enter the initial IP information. You can then access the switch through the IP address for further configuration.



## Note

To use the CLI-based initial setup program, see Appendix C, “*Configuring the Switch with the CLI Setup Program*,” in the switch hardware guide.

You need this equipment:

- PC with Windows 2000, XP, Vista, or Windows Server 2003
- Web browser (Internet Explorer 6.0, 7.0, or Firefox 1.5, 2.0, or later) with JavaScript enabled
- Straight-through or crossover Category 5 or 6 cable



## Note

Before running Express Setup, disable any pop-up blockers or proxy settings on your browser and any wireless client running on your PC.

### Step 1

Make sure that nothing is connected to the switch.



### Step 2

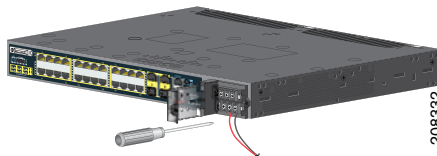
During Express Setup, the switch acts as a DHCP server. If your PC has a static IP address, temporarily configure your PC settings to use DHCP.

**Note** Write down the static IP address. You need this address in Step 12.

### Step 3

Connect the wires to the switch power-input terminal.

See the “[Wiring the Power Source](#)” section on [page 16](#) for instructions about AC- or DC-power connections.



- Step 4** Approximately 45 seconds after the switch powers on, it begins the power-on self-test (POST), which can take up to 5 minutes.
- During POST, the SYSTEM LED blinks green, and the port LEDs turn green.
- When POST is complete, the SYSTEM LED remains green, and the other LEDs turn off.

### Troubleshooting

If the SYSTEM LED blinks green, does not turn green, or turns amber, contact your Cisco representative or reseller. The switch failed POST.

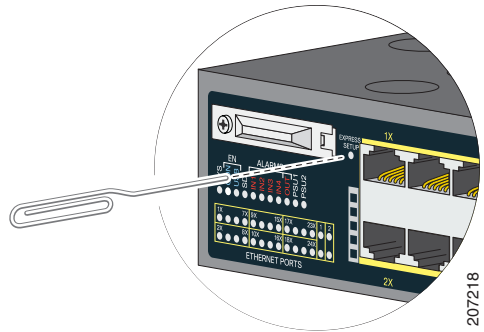
- Step 5** Press the recessed Express Setup button with a simple tool, such as a paper clip.

You might need to press the button for *3 seconds*.

When you press the Express Setup button, a switch 10/100 Ethernet port LED blinks green.

### Troubleshooting

If a switch port LED does not blink green, repeat Steps 1 to 5. You can also use the setup program described in the switch hardware guide.



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**Step 6**

Connect a Category 5 or 6 cable to the blinking 10/100 Ethernet port.

Connect the other end of the cable to the Ethernet port on your PC.

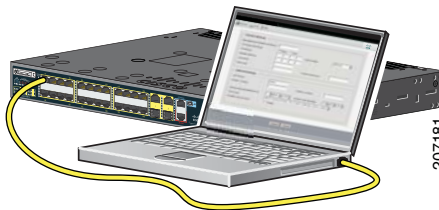
Wait until the port LEDs on the switch and your PC or laptop are either green or blinking green. Green LEDs mean a successful connection.

**Troubleshooting**

If the port LEDs are not green after about 30 seconds, make sure that:

- You connected the Ethernet cable to the blinking 10/100 Ethernet port (not to an uplink port such as the dual-purpose port).
- You are using a Category 5 or 6 cable and that the cable is not damaged.
- The other device is turned on.

You can ping IP address 169.254.0.1 to verify the connection.



- Step 7** Start a browser session on the PC, open a well-known website, such as Cisco.com. The switch prompts you for the default username and password. At the prompt, enter the default username and password *cisco*.

The Express Setup window appears.

### Troubleshooting

If the Express Setup window does not appear, make sure that any browser pop-up blockers or proxy settings are disabled and that any wireless client on your PC or laptop is disabled.

**Network Settings**

Management Interface (VLAN):

IP Assignment Mode: ☒ Static ☐ DHCP

IP Address:

Subnet Mask:

Default Gateway:

Password:

Confirm Password:

**Optional Settings**

Host Name:

Telnet Access: ☐ Enable ☒ Disable

Telnet Password:

Confirm Telnet Password:

System Date (DD/MMM/YYYY):

System Time (HH:MM):

Time Zone:

Daylight Saving Time: ☒ Enable

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**Step 8** Enter this information in the Network Settings fields:

**Note** All entries must be in English letters.

- In the Management Interface (VLAN ID) field, the default is *1*.

**Note** We recommend that you use the default VLAN value. During Express Setup, VLAN 1 is the only VLAN on the switch. Enter a new VLAN ID only if you want to change the management interface through which you manage the switch. The VLAN ID range is 1 to 1001.

- In the IP Assignment Mode field, we recommend that you use the default, **Static**, which means that the switch always has the IP address that you assign. Use the DHCP setting when you want the switch to automatically obtain an IP address from a DHCP server.
- In the IP Address field, enter the IP address of the switch.
- In the Subnet Mask field, click the drop-down arrow, and select a subnet mask.
- In the Default Gateway field, enter the IP address for the default gateway (router).
- Enter your password in the Switch Password field. The password can be from 1 to 25 alphanumeric characters, can start with a number, is case sensitive, allows embedded spaces, but does not allow spaces at the beginning or end. In the Confirm Switch Password field, enter your password again.

**Note** You must change the password from the default password, *cisco*.

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**Step 9** Enter the Optional Settings now, or enter them later:

You can enter other administrative settings in the Express Setup window. For example, the optional administrative settings identify and synchronize the switch for enhanced management. NTP synchronizes the switch clock with the network clock. You can also manually set the system clock settings.

Click **Submit** to save your changes.

For more information about the Express Setup fields, see the online help for the Express Setup window.

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**Step 10** After you click **Submit**, these events occur:

- The switch is configured and leaves Express Setup mode.
  - The browser displays a warning message and tries to connect with the earlier switch IP address. Typically, connectivity between the PC and the switch is lost because the configured switch IP address is in a different subnet from the PC IP address.
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|----------------|---|
| <b>Step 11</b> | Disconnect the switch from the PC, and install the switch in your network. See the <a href="#">“Installing the Switch” section on page 10</a> . |
| <b>Step 12</b> | If you changed the static IP address on your PC in <a href="#">Step 2</a> , change it to the previously configured static IP address.           |
| <b>Step 13</b> | See the <a href="#">“Managing the Switch” section on page 9</a> for information about configuring and managing the switch.                      |
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## Managing the Switch

After completing Express Setup and installing the switch in your network, you can use the CLI for further configuration. You can enter Cisco IOS commands and parameters through the CLI. Use one of these options to access the CLI:

- [Switch RJ-45 Console Port](#)
- [Switch USB Console Port](#)

### Switch RJ-45 Console Port

1. Connect the RJ-45-to-DB-9 adapter cable to the 9-pin serial port on the PC. Connect the other end of the cable to the switch console port.
2. Start a terminal-emulation program on the PC.
3. Configure the PC terminal emulation software for 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control.
4. Use the CLI to enter configuration commands. See the software configuration guide and the command reference for more information.

### Switch USB Console Port

If you use the USB console port, you must install the Cisco Windows USB device driver on the PC that is connected to the USB console port. See the switch hardware installation guide for installation instructions.

1. Connect an USB cable to the PC USB port. Connect the other end of the cable to the mini-B (5-pin-connector) USB console port on the switch.
2. Start a terminal-emulation program on the PC.

3. Configure the PC terminal emulation software for 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control.
4. Use the CLI to enter configuration commands. See the software configuration guide and the command reference for more information.

**Note**

You cannot use the switch RJ-45 console port and the switch USB console port at the same time to access the CLI.

## Installing the Switch

This section covers 19-inch rack-mounting, wiring procedures, and switch port connections. The illustrations show the Cisco IE-3010-24TC switch. You can install and connect other Cisco IE 3010 switches as shown in these examples. For alternate mounting procedures, such as installing the switch on a wall and for additional cabling information, see the switch hardware installation guide.

## Equipment That You Need

- Ratcheting torque flathead screwdriver that exerts up to 15-inch pound (in-lb) of torque
- Ring, spade, or flanged spade terminal (terminals should be insulated):
  - Ring terminal (such as Tyco part number 2-34158-1 for 16–14 AWG, or 2-34852-1 for 12–10 AWG wire)
  - Spade terminal (such as Tyco part number 54367-2 for 16–14 AWG wire)
  - Flanged spade terminal (such as Tyco part number 2-324165-1 for 16–14 AWG wire, or 1-324581-1 for 12–10 AWG wire)

**Note**

For IP-30 compliance:

- Use the 16-14 AWG wire and appropriate terminals for the AC or high-voltage DC power supply

- Use the 12-10 AWG wire and appropriate terminals for the low-voltage DC power supply

- Crimping tool (such as Thomas & Bett part number WT2000, ERG-2001 or equivalent)
- 6-gauge copper ground wire (such as Belden part number 9902 or equivalent)
- 12-AWG wire (minimum) for the low-voltage power-supply module and 16-AWG wire (minimum) for the high-voltage power-supply module
- For power source connections, use wires rated for at least 194°F (90°C)
- UL- and CSA-rated style 1007 or 1569 twisted-pair copper appliance wiring material (AWM) wire (such as Belden part number 9318)
- Wire-stripping tools for stripping 6-, 10-, 12-, 14-, and 16-gauge wires.
- Number-2 Phillips screwdriver for rack-mounting
- Flat-blade screwdriver

## Before You Begin

Before installing the switch, verify that these guidelines are met:

- Clearance to the cable-side view or the power-supply-side view is such that the LEDs can be easily read.
- Cabling is away from sources of electrical noise, such as radios, power lines, and fluorescent lighting fixtures. Make sure that the cabling is away from other devices that might damage the cables.
- Airflow around the switch and through the vents is unrestricted. To prevent overheating, the switch must meet the minimum clearance of 1.75 inches (4.4 cm) at the top and bottom.
- Temperature around the unit does not exceed 140°F (60°C). If the switch is installed in a closed or multirack assembly, the temperature around it might be higher than normal room temperature.

- Relative humidity around the switch does not exceed 95 percent (noncondensing).
- Altitude at the installation site is not higher than 10,000 feet.
- For 10/100 and 10/100/1000 fixed ports, cable lengths from the switch to connected devices are not longer than 328 feet (100 meters).
- For cable lengths for small form-factor pluggable (SFP)-module connections, see the hardware installation guide on Cisco.com and the module documentation.

## Installation Warning Statements

This section includes the basic installation warning statements. Translations of these warning statements appear in the *Regulatory Compliance and Safety Information for the Cisco IE 3010 Switch* document that is on the documentation CD.



### Warning

**This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.** Statement 1017



### Warning

**Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030



### Warning

**To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 140°F (60°C)** Statement 1047



### Warning

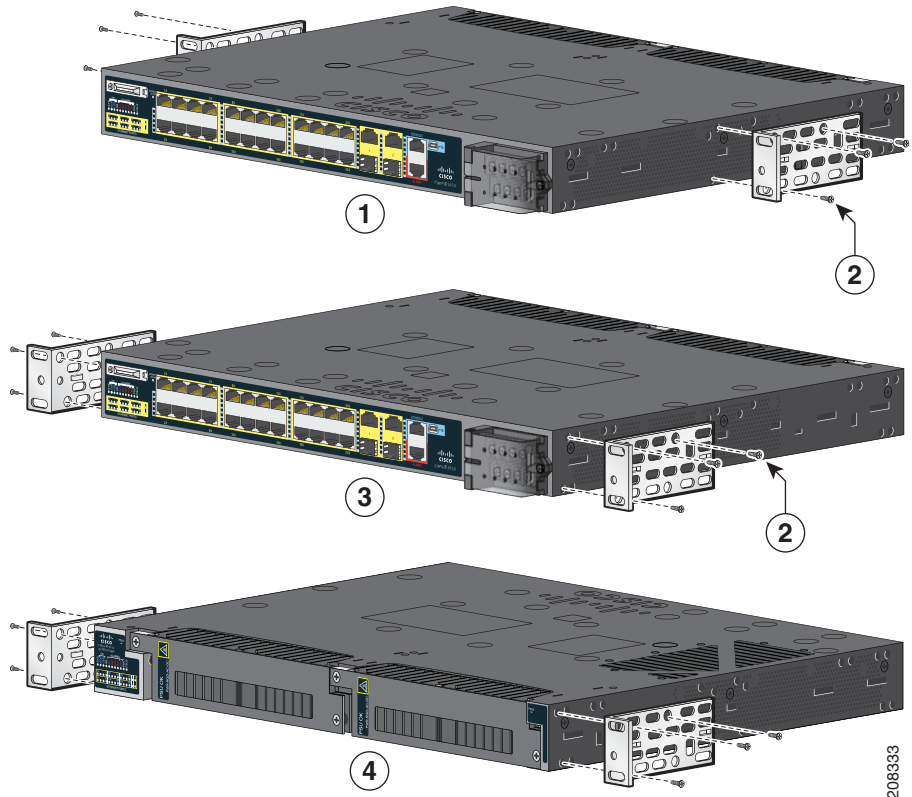
**This equipment is intended to be grounded to comply with emission and immunity requirements. Ensure that the switch functional ground lug is connected to earth ground during normal use.** Statement 1064

**Warning**

**To prevent airflow restriction, allow clearance around the ventilation openings to be at least: 1.75 in. (4.4 cm) Statement 1076**

## Attaching the Brackets

Use six Phillips flat-head screws to attach the long side of the brackets to the switches in one of three mounting positions. For information on mounting ESTI and 24-inch brackets, see the hardware guide.



<b>1</b>	Mid-mounting position	<b>3</b>	Cable-side mounting position
<b>2</b>	Number-8 Phillips flat-head screws	<b>4</b>	Power-supply-side mounting position

## Rack-Mounting the Switch

Use the four number-12 Phillips machine screws to attach the brackets to the rack. Use the black Phillips machine screw to attach the cable guide to the left or right bracket.



### Warning

**To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:**

**This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**

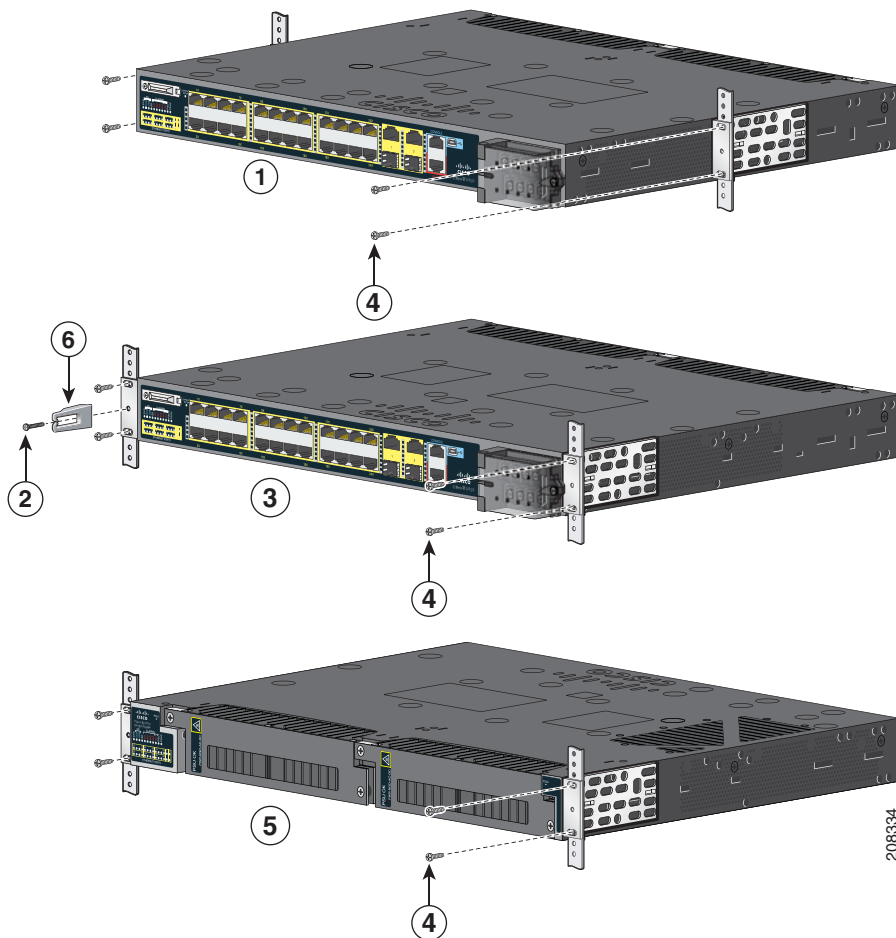
**When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**

**If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.** Statement 1006



### Warning

**For mounting railway-application equipment and for EN50155 standard compliance, the switch must be installed only in a rack mid-mounting position. If you install the switch in a front rack-mounting (cable side or power supply side) position or in a wall-mounting position, a mechanical failure can occur that results in the switch becoming detached from the rack.** Statement 403



<b>1</b>	Mid-mounting position	<b>4</b>	Number-12 Phillips machine screws
<b>2</b>	Black Phillips machine screw	<b>5</b>	Power-supply-side mounting position
<b>3</b>	Cable-side mounting position	<b>6</b>	Cable guide

## Wiring the Power Source

The switches have two power supply slots to support these power supply modules:

- PWR-RGD-LOW-DC: low-voltage DC (24 to 60 VDC)
- PWR-RGD-AC-DC: high-voltage AC (100 to 240 VAC) or high-voltage DC (100 to 250 VDC)

The switch supports these power-supply module combinations:

- Single low-voltage DC
- Single high-voltage AC or DC
- Two high-voltage AC or DC
- Two low-voltage DC
- One high-voltage AC or DC and one low-voltage DC

For detailed information on installing the power supply modules and for the power-supply module specifications, see the hardware installation guide.

## Grounding the Switch

Follow these steps to connect the switch to a protective ground.

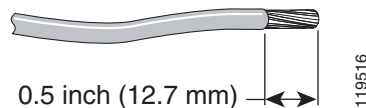


### Warning

**This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.** Statement 1024

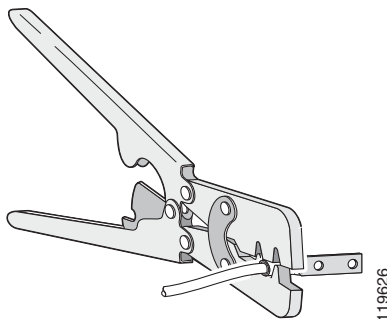
**Step 1** Use a standard Phillips screwdriver or a ratcheting torque screwdriver with a Phillips head to remove the ground screw from the cable-side of the switch. You need the screw in Step 4.

**Step 2** Strip the 6-gauge ground wire to 0.5 inch (12.7 mm)  $\pm$  0.02 inch (0.5 mm).



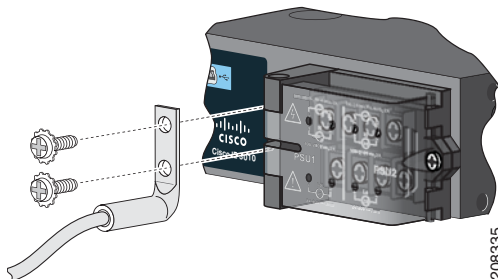


- Step 3** Insert the ground wire into the terminal lug, and crimp the terminal to the wire.



- Step 4** Slide the ground screw from Step 1 through the terminal lug.

- Step 5** Insert the ground screw into the ground-screw opening on the cable side.



- Step 6** Use a ratcheting torque screwdriver to tighten the ground screw to 30 in-lb ( $\pm 2$  in-lb).

- Step 7** Attach the other end of the ground wire to a grounded bare metal surface, such as a ground bus or a grounded bare rack.

## Connecting to the Power Source

Prepare the power cable.



**Warning**

**This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.** Statement 1028



**Warning**

**This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: AC: 5 A, DC: 15 A.** Statement 1005

### Step 1 Locate the switch power-input terminal.

The terminal screws are labeled on the power-input terminal cover.

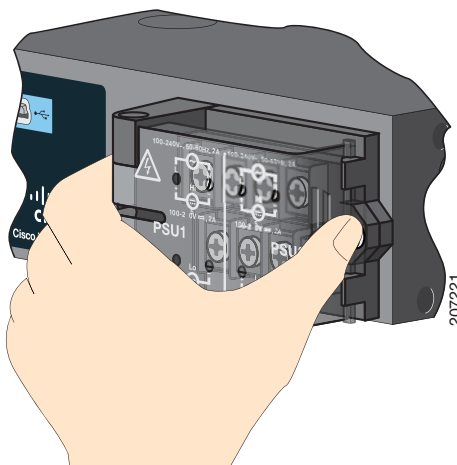
AC power:

Identify the line and neutral AC-power terminal screws. The line terminal screw is labeled *L*, and the neutral terminal screw is labeled *N*.

DC power:

Identify the positive and negative DC-power terminal screws. The positive terminal screw is labeled *+*, and the negative terminal screw is labeled *-*.

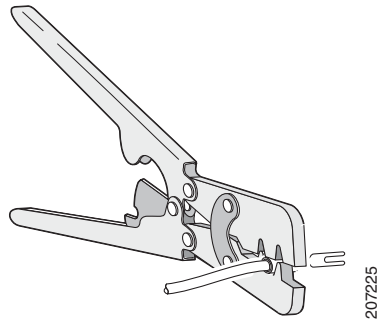
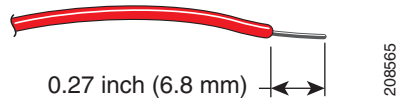
**Note** The terminal screws for power-supply module 1 are on the side labeled PSU1, and the terminal screws for power-supply module 2 are on the side labeled PSU2. Make sure that you connect the wires to the correct terminal screws.



### Step 2 Locate the AC and DC circuit breakers, turn them OFF, and tape them in the OFF position.

**Note** Do not connect the switch to a power source that has an ON/OFF switch.

<b>Step 3</b>	Use a Phillips screwdriver to loosen the captive screw on the power-input terminal, and open the cover.
<b>Step 4</b>	Use twisted-pair copper wire (14- to 18-AWG) long enough to connect from the power-input terminal to the power source.
<b>Note</b>	Use 12-AWG (minimum) for the low-voltage DC power supply module, and use 16-AWG (minimum) for the high-voltage AC or DC power supply module.
<b>Step 5</b>	<p>Strip each of the two wires to 0.25 inch (6.3 mm) <math>\pm</math> 0.02 inch (0.5 mm). Do not strip more than 0.27 inch (6.8 mm) of insulation from the wire. Stripping more than the recommended amount of wire can leave exposed wire from the connector after installation.</p>
<b>Step 6</b>	<p>Insert the wire into a spade terminal, and crimp the spade terminal to the wire.</p> <p><b>Note</b> You can use a ring, spade, or flanged spade terminal.</p>



**Step 7** Loosen the terminal screw, and slide the spade terminal under the screw and washer.

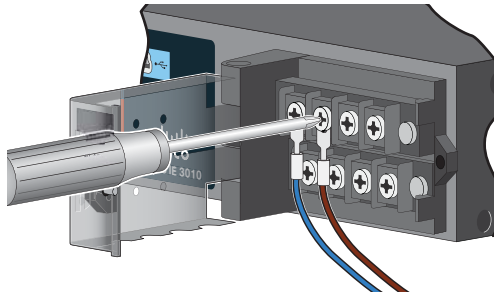
**Note** Use the appropriate terminal screws, depending on whether you are installing a high-voltage (AC or DC) or a low-voltage (DC) power supply.



**Step 8** AC power:

Insert the line wire into the terminal screw labeled *L* and the neutral wire into the terminal screw labeled *N*.

Make sure that you cannot see any wire lead. Only wire *with insulation* should extend from the terminal screw.

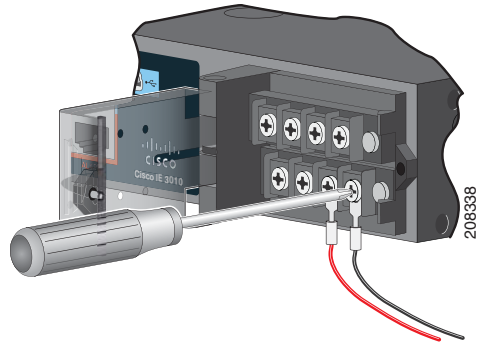


DC power:

Insert the positive wire into the terminal screw labeled +, and the negative wire into the terminal screw labeled –.

Make sure that you cannot see any wire lead. Only wire *with insulation* should extend from the terminal screw.

**Note** If you have a low-voltage DC power supply module, connect the wires to the terminal screws labeled *Lo*. If you have a high-voltage DC power supply module connect the wires to the terminal screws labeled *Hi*.



**Step 9** Torque the captive screws (above the installed wire leads) to 8.5 in-lb ( $\pm 0.5$  in-lb).

**Step 10** AC power:

Connect the other end of the line wire (the one connected to *L*) to the line terminal on the AC-power source, and connect the other end of the neutral wire (the one connected to *N*) to the neutral terminal on the AC power source.

DC power:

Connect the other end of the positive wire (the one connected to +) to the positive terminal on the DC power source, and connect the other end of the negative wire (the one connected to –) to the negative terminal on the DC power source.

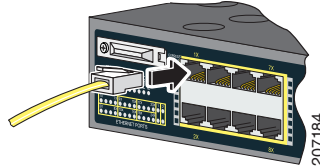
**Step 11** When you are testing the switch, one power connection is sufficient. If you are installing the switch and are using a second power source, repeat Step 3 through Step 10.

**Step 12** Close the power-input terminal cover. Use a ratcheting torque screwdriver to torque the screw to 6–8 in-lb.

# Connecting the Switch Ports

## 10/100 or 10/100/1000 Ports

**Step 1** When you connect to servers, workstations, IP phones, wireless access points, and routers, use a straight-through, twisted four-pair, Category 5 cable in a 10/100 or 10/100/1000 port. Use a crossover, twisted four-pair, Category 5 cable when you connect to other switches, hubs, or repeaters.



**Step 2** Connect the other cable end to an RJ-45 port on the other device.

The 10/100 ports on the Cisco IE-3010-16S-8PC support Power over Ethernet (PoE) and enhanced PoE (ePoE). See the switch software configuration guide for more information.

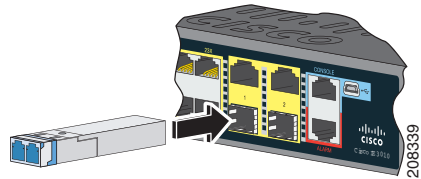


### Note

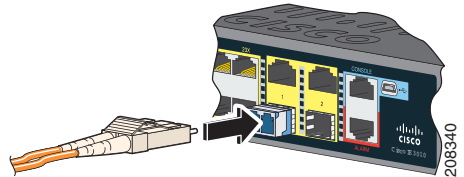
The automatic medium-dependent interface crossover (auto-MDIX) feature is enabled by default. The switch detects the required cable type for copper Ethernet connections and configures the interfaces. You can use either a crossover or a straight-through cable for connections to a copper 10/100/1000 module port on the switch, regardless of the type of connected device.

## SFP-Module Ports

- Step 1** Grasp the module on the sides, and insert it into the switch slot until you feel the connector snap into place.



- Step 2** Connect an appropriate cable to the module port. Insert the other cable end into the other device.



For a list of supported modules, see the release notes on [Cisco.com](http://Cisco.com). For detailed instructions on installing, removing, and connecting to SFP modules, see the SFP module documentation.

## Verify Port Connectivity

After you connect the switch port and another device, the port LED turns amber while the switch establishes a link. This process takes about 30 seconds, and then the LED turns green. If the LED turns off, the target device might not be turned on, there might be a cable problem, or there might be a problem with the adapter in the target device.

# Troubleshooting

## Express Setup

If Express Setup does not run or if the Express Setup page does not appear in your browser:

Did you verify that POST completed before you started Express Setup?	<p>If not, make sure that only the system and port LEDs are green before you press the Express Setup button.</p> <p>POST errors are usually fatal. Contact your Cisco technical support representative if your switch fails POST.</p>
Did you press the Express Setup button while the switch was still running POST?	<p>If yes, wait until POST completes. Restart the switch. Wait until POST completes. Confirm that the system and port LEDs are green. Press the Express Setup button.</p>
Does your PC have a static IP address?	<p>If yes, change your PC settings to temporarily use DHCP.</p>
Did you connect the Ethernet cable to the console port instead of to a blinking 10/100 Ethernet port on the switch?	<p>If yes, disconnect the cable from the console port on the switch. Connect the cable to a blinking 10/100 Ethernet port on the switch. Wait 30 seconds, and start a browser session on the PC.</p> <p><b>Note</b> The console port is outlined in blue, and the Ethernet ports are outlined in yellow.</p>
Did you wait 30 seconds after you connected the switch and the PC and before you started a browser session on the PC?	<p>If not, wait 30 seconds before you start a browser session on the PC.</p>



## Resetting the Switch to the Default Settings

**Caution**

Resetting the switch deletes the configuration and restarts the switch.

1. Press and hold the Express Setup button for about 10 seconds. The switch reboots. The system LED turns green after the switch completes rebooting.
2. Press the Express Setup button again for 3 seconds. A switch 10/100 Ethernet port blinks green.
3. Follow Steps 6 to 13 in the [“Running Express Setup” section on page 4](#).

## Accessing Help Online

First look for a solution in the troubleshooting section of the switch hardware installation guide or the switch software configuration guide on Cisco.com. You can also use the Cisco Technical Support and Documentation site for a list of known hardware problems and extensive troubleshooting documentation.

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

## For More Information

Go to Cisco.com:

- *Cisco IE 3010 Switch Hardware Installation Guide*
- *Regulatory Compliance and Safety Information for the Cisco IE 3010 Switch*
- *Release Notes for the Cisco IE 3010 Switch*
- *Cisco IE 3010 Switch Software Configuration Guide*
- *Cisco IE 3010 Switch Command Reference*
- *Cisco IE 3010 Switch System Message Guide*

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